



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:

Hill and Hannan

: Group Art Unit: 1646

Serial No: 09/346,470

: Examiner: J. Murphy

Filed: July 1, 1999

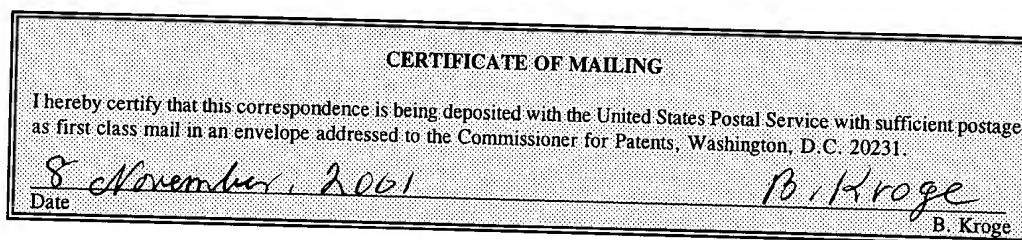
For: GENETIC SEQUENCES ENCODING STEROID AND JUVENILE
HORMONE RECEPTOR POLYPEPTIDES AND INSECTICIDAL MODALITIES
THEREFOR

TECH CENTER 1600/2900

DEC 13 2001

RECEIVED

#15
B. Kroge
12/14/01



RESPONSE TO REQUIREMENT FOR RESTRICTION
AND SUBMISSION OF SUBSTITUTE SPECIFICATION

Commissioner for Patents
Washington, D.C. 20231

Sir:

In response to the Office Action mailed May 8, 2001, Applicants respectfully request reconsideration and favorable action in view of the comments submitted herein. This response is accompanied by a Petition for Extension of Time and the necessary fee.

The Requirement for Restriction

The Patent Office has required restriction to one of the following allegedly distinct inventions:

- I. Claims 1-29, 31-33, nucleic acid encoding a protein with the amino acid sequence of SEQ ID NO:2, vector, host cell, method of hybridization.
- II. Claims 1-29, 31-33, nucleic acid encoding a protein with the amino acid sequence of SEQ ID NO:4, vector, host cell, method of hybridization.
- III. Claims 1-29, 31-33, nucleic acid encoding a protein with the amino acid sequence of SEQ ID NO:6, vector, host cell, method of hybridization.

- IV. Claims 1-29, 31-33, nucleic acid encoding a protein with the amino acid sequence of SEQ ID NO:10, vector, host cell, method of hybridization.
- V. Claims 1-29, 31-33, nucleic acid encoding a protein with the amino acid sequence of SEQ ID NO:12, vector, host cell, method of hybridization.
- VI. Claims 1-29, 31-33, nucleic acid encoding a protein with the amino acid sequence of SEQ ID NO:14, vector, host cell, method of hybridization.
- VII. Claim 30, isolated polypeptide of SEQ ID NO:2.
- VIII. Claim 30, isolated polypeptide of SEQ ID NO:4.
- IX. Claim 30, isolated polypeptide of SEQ ID NO:6.
- X. Claim 30, isolated polypeptide of SEQ ID NO:10.
- XI. Claim 30, isolated polypeptide of SEQ ID NO:12.
- XII. Claim 30, isolated polypeptide of SEQ ID NO:14.

Applicants respectfully elect the claims of Group IV for examination with traverse, i.e., claims 1-29 and 31-33 reciting nucleic acid encoding a protein with the amino acid sequence of SEQ ID NO:10, vectors, recombinant host cells and methods of hybridization. SEQ ID NO:10 is the deduced amino acid sequence of the EcR polypeptide subunit of the *Myzus persicae* ecdysone receptor. Applicants respectfully urge that there is indeed a shared technical feature shared by claims 1-29 and 31-33, in that each of these claims defines nucleic acid molecules encoding one of the two polypeptides of the functional heterodimeric ecdysone receptor of either *Lucilia cuprina* or *Myzus persicae* (see page 1, lines 12-14 of the as-filed Specification). The functional receptor occurs as a heterodimer which is made up of the EcR (hormone binding protein) and the USP (the partner protein which complexes to the ecdysone receptor/binding protein). Both the USP and the EcR polypeptides are required to be present in the complexed heterodimer for ecdysone hormone receptor activity. When the research leading to the present application was carried out, the inventors initially had expected that the EcR protein was all that was required for receptor activity. However, as the research developed, they recognized the need for the second "partner" polypeptide. Thus, while there are two component polypeptides, it is the heterodimeric hormone receptor protein complex which is biologically active. Accordingly, Applicants respectfully request the rejoinder of at least the nucleic acid molecules, vectors, host cells and methods claims drawn to the sequences encoding the EcR protein (SEQ ID NO:10) and the USP protein (SEQ ID NO:12) of *M. persicae*.

Applicants respectfully request that, once the Examiner has found that SEQ ID NO:10 is allowable, he consider further sequences as claimed in the present application.

The Sequence Rules

The Patent Office has required amendment of the Specification to incorporate reference to the SEQ ID NO identifiers throughout the Specification. Because of the numerous occurrences of the "<400>" which the preparer of the present application used instead of "SEQ ID NO," Applicants submit herewith a substitute, reformatted specification in which "<400>" has been replaced with "SEQ ID NO." The numbers of the particular sequences in the Sequence Listing have not been changed from the original recitations. There are also corrections of inadvertent typographical errors. Following is a list of the corrections made:

In the as-filed Specification:

Page 2, line 6, "followed by" deleted and replaced with --and--
Page 2, line 7, "(eg. SEQ ID NO:1, SEQ ID NO:2, etc.)"
Page 16, line 19, "baculovirus"
Page 20, lines 7 and 14, "*Lucilia*"
Page 21, line 8, "required"
Page 26, line 6, second occurrence of "sequences"
Page 38, line 25, "amino acid"
Page 39, line 3, duplicate recitation of "the" before "EcR" deleted
Page 55, line 20, "synthesized"
Page 62, line 3, "sufficient"
Page 64, line 4, "truncated"
Page 67, line 1, "truncated"
Page 69, line 26, "either"

In the as-filed Claims:

Claim 39, 4th line, "potential"

In the as-filed Abstract:

Page 81, line 14, "virtue."

None of the amendments made herein constitutes the addition of new matter.

Conclusion

In view of the foregoing, it is submitted that this case is in condition for allowance, and passage to issuance is respectfully requested.

If there are any outstanding issues related to patentability, the courtesy of a telephone interview is requested, and the Examiner is invited to call to arrange a mutually convenient time.

This response is accompanied by a Petition for Extension of Time (five months) and a check in the amount of **\$1,960.00** as required under 37 C.F.R. 1.17. It is believed that this response does not necessitate the payment of any additional fees under 37 C.F.R. 1.16-1.17. If the amount submitted is incorrect, however, please charge any deficiency or credit any overpayment to Deposit Account No. 07-1969.

Respectfully submitted,



Donna M. Ferber
Reg. No. 33,878

GREENLEE, WINNER AND SULLIVAN, P.C.
5370 Manhattan Circle, Suite 201
Boulder, CO 80303
Telephone (303) 499-8080
Facsimile: (303) 499-8089
Email: winner@greenwin.com

Attorney docket No.53-99
bmk: November 8, 2001